United States Patent

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[72] Inventor **Howard E. Scott**
5451 LaPasada St., Long Beach, Calif. 90815

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[54] **NAIL CARRIER**
5 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **221/185**, 224/5
[51] **Int. Cl.** **G07f 11/00**
[50] **Field of Search** ..... 224/5, 5—8, 5—22, 5—2; 221/185, 156

[56] **References Cited**
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Primary Examiner—Gerald M. Forlenza
Assistant Examiner—John Mannix
Attorney—William C. Babcock

ABSTRACT: A nail carrier that includes an open-topped receptacle supported forwardly of a user's chest by a harness. At least one longitudinal slot is formed in the lower portion of the receptacle, through which a row of nails depend. Troups of the depending nails may be grasped by the user and withdrawn from the receptacle through openings provided in the ends thereof. The openings are normally closed by spring-loaded doors to prevent nails from inadvertently dropping from the receptacle. However, these doors yield to force that is applied thereto as one of said group of nails is manually removed from the receptacle by the user, and thereafter the doors automatically close.

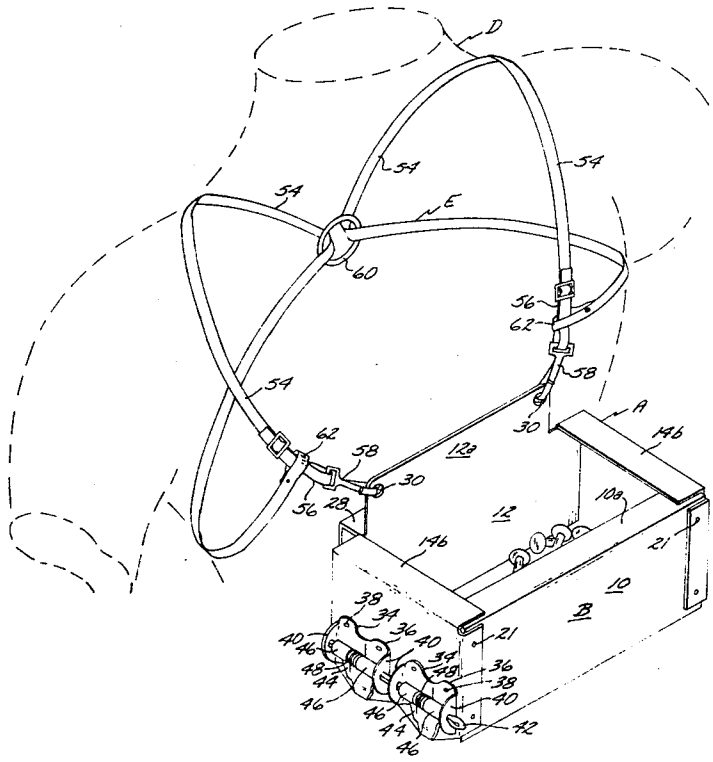


FIG. 2

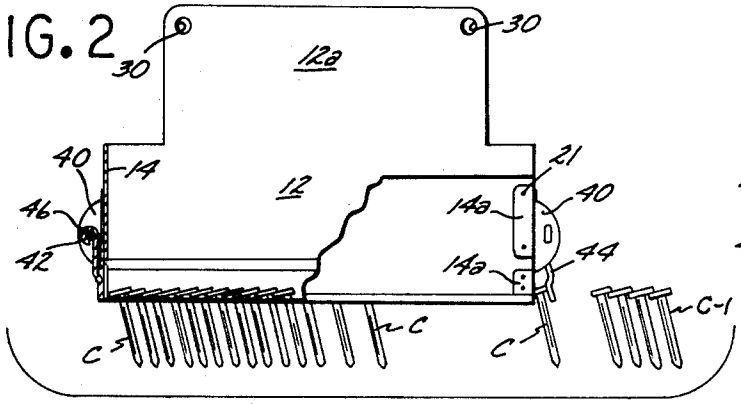


FIG. 4

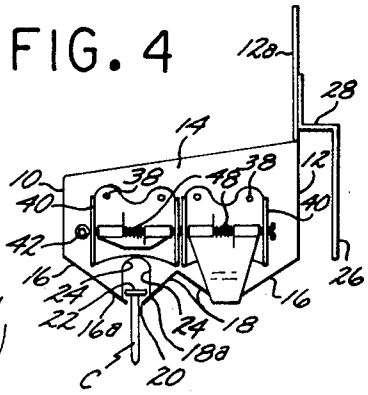


FIG. 3

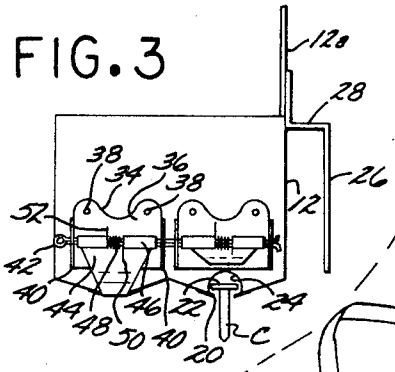


FIG. 1

FIG. 5

INVENTOR.
HOWARD E. SCOTT

BY
William G. Babcock
ATTORNEY

NAIL CARRIER

BACKGROUND OF THE INVENTION

1. Field of the Invention

A nail carrier particularly adapted for use by roofers and shinglers, as well as carpenters and sidewall applicators, that is supported from the chest of a user by a harness, and which carrier at all times supports at least one row of nails in aligned, depending positions. Nails may be manually removed from each row of nails and subsequently driven by the user. As nails are removed from each row, additional nails are supplied from a receptacle to replenish that row.

2. Description of the Prior Art

In applying shingles, wallboard, and the like, a large quantity of nails are used in affixing the same to the supporting structure. To facilitate the rapid application of such materials to a structure, it is necessary that the roofer, shingler, or wallboard applicator not only carry a large quantity of nails, but that the nails be so carried as to be readily available in groups that may be readily grasped, and the nails thereafter individually and sequentially driven into position. Heretofore the problem of carrying a substantial quantity of nails in a readily dispensable condition had not been solved. The present invention is a compact, lightweight, inexpensive device that solves this long felt need.

SUMMARY OF THE INVENTION

A nail carrier capable of being removably supported in a spaced relationship from the chest of a user by a harness, with the carrier when so disposed, holding a substantial quantity of nails, with a portion of the nails at all times occupying depending positions in at least one row. The depending nails may be sequentially removed by the user in groups to be subsequently and individually used. The carrier, depending on the dimensions thereof, may be used either for composition shingle nails from ⅞×11 inches to 2×11 inches, or box nails from 3*d* to 8*d* for wooden shingles and dry wall.

An object of the present invention is to provide a nail carrier in which a substantial quantity of nails may be maintained, which is adapted to be removably disposed in a position forward of a user's chest and supported by a harness for convenience in supplying the user with nails as needed.

Another object of the invention is to supply a nail carrier of relatively simple mechanical structure, that can be fabricated from standard, commercially available materials, is easy to use, and may be retailed at a sufficiently low price as to encourage widespread use thereof.

A still further object of the invention is to furnish a nail carrier that automatically aligns nails deposited therein in depending positions therefrom, with the nails when so arranged, being susceptible to easy access whereby a user may withdraw a quantity of nails as desired from the carrier.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the nail carrier removably supported in a position forward of the chest of a user by an adjustable harness;

FIG. 2 is a front elevational view of the carrier with a portion thereof cut away to illustrate the interior thereof;

FIG. 3 is an end elevational view of a first form of the device that holds composition shingle nails;

FIG. 4 is an end elevational view of a second form of the device that holds box nails for wooden shingles or a dry wall; and

FIG. 5 is a top plan view of the device.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The nail carrier assembly A, as may best be seen in FIG. 1, includes a receptacle B that not only serves to hold a substantial quantity of nails C, but also supports a portion of the nails in depending, aligned positions therefrom, as illustrated in FIG. 2. The receptacle B is removably held in position forwardly of the chest of a user D by a harness E.

The receptacle B is fabricated from a nonmagnetic sheet material to prevent adherence of the nails thereto, and includes a front wall **10** and rear wall **12**, which are connected by end walls **14**. In the form of the invention illustrated in the accompanying drawing, two pairs of downwardly and inwardly extending bottom members **16** and **18** extend longitudinally between the end walls **14**, and are secured thereto. Each pair of bottom members **16** and **18** cooperatively define a longitudinally extending slot **20** therebetween that is narrower than the diameter of the heads **22** of the nails C to be dispensed therefrom. Should it be desired, only one pair of bottom members **16** and **18** may be used. Likewise, more pairs of bottom members **16** and **18** than those shown in the drawing may be employed if desired.

The edge portions of the bottom members **16** and **18** most adjacent to one another are defined by doubled-over portions **16***a* and **18***a* for reinforcement purposes. The vertical edge portions of the end walls **14** are bent to define flanges **14***a* that are secured to the front wall **10** and rear wall **12** by rivets **21**, or other suitable fastening means, as shown in FIG. **1**. Pairs of openings **24** are formed in the lower portion of end walls **14**, which openings are in longitudinal alignment with the slots **20**. The openings **24** are of sufficient width and height to permit the heads **22** of the nails C to be moved longitudinally therethrough. The upper portion of front wall **10** is bent inwardly to define a longitudinally extending flange **10***a*, best seen in FIG. **1**. The upper portions of the end walls **14** are also bent inwardly to define flanges **14***b*. The flanges **10***a* and **14***b* cooperatively prevent inadvertent slippage of nails C from the receptacle B when the user D is in a stooped-over position (not shown).

The rear wall **12** (FIG. **1**) has an extension **12***a* projecting upwardly above the front wall **10** and end walls **14**, as illustrated in FIGS. **1** and **3**. A chest plate **26** is situated rearwardly from the assembly A, as may be seen in FIG. **4**. The upper portion of the plate **26** develops into a forward extension **28** that is secured to the rear wall extension **12***a* by conventional means, as shown in FIG. **4**. The end upper portions of the rear wall extension **12***a* has two openings **30** therein, the purpose of which will later be explained.

Two pairs of brackets **34** are secured to the end walls **14**, as shown in FIGS. **1**, **2**, **3**, and **4**, and each bracket includes a web **36** affixed to one of the end walls **14** by rivets **38** or other conventional fastening means. Each bracket includes two transversely spaced arms **40** which extend outwardly from the web **36**. Aligned openings (not shown) are provided in arms **40**, through which an elongate rigid member **42** extends, which member is illustrated in the drawing as a cotter pin.

Each of the brackets **34** has a door **44** pivotally supported by the pin or member **42**, with the door being of sufficient size as to extend over one of the openings **24** when the door is in abutting contact with one of the end walls **14**. The upper portion of each door **44** is bent to define two loops **46** that pivotally engage the pin **42**. Tensioned helical springs **48** encircle the pin **42** between the portions **46**, and the end sections **50** and **52** of the springs **48**, and at all times tend to cause the doors **44** to remain in abutting contact with the end wall **14** with which they are associated.

The harness E, as may best be seen in FIG. **1**, includes two identical straps **54**, the first end portions **56** of which are adjustable. End portions **56** engage conventional snap fasteners **58**, which in turn removably engage the openings **30**. The straps **54** extend upwardly over the chest and shoulders of the user D, and downwardly on his back to enter a ring **60**. The straps **54** extend from ring **60** around opposite sides of the user D, and develop on second ends thereof into loops **62** that engage the straps adjacent the fasteners **58**.

Prior to using the nail carrier assembly A, the harness E is so adjusted on the user D that the receptacle B slopes downwardly either to the left or right to cause the heads **22** of the nails C to partially overlap one another as shown in FIG. **2**. The receptacle B as viewed in FIG. **2**, will be adjusted to slope downwardly to the right if the user D is right handed, and downwardly to the left is the user is left handed.

When the nail carrier assembly A is supported forwardly of the chest of the user D (FIG. 1), and the receptacle B is filled with nails C, by force of gravity a portion of the nails will assume the depending positions shown in FIG. 2. Thereafter, the nails may be grasped in groups by the user D and moved longitudinally in either direction through the slots **20** until they contact one of the doors **44**. By causing the grasped group of nails to exert an outward force on a door **44**, the door may be pivoted outwardly to a position to permit withdrawal of the group of nails from within the confines of the receptacle B, and immediately after said withdrawal, the spring **48** is permitted to snap the door **44** back to a closed position, as shown on the left-hand side of FIG. 2.

It will be particularly noted that the nails C in each group C–1, so withdrawn from the receptacle, have the heads **22** partially overlying one another. Due to this positioning of the heads **22** in each group C–1, the nails C are easily separated from one another in the group by use of the thumb and forefinger and thereafter may be sequentially driven into a desired structure.

Movement of the user D as he works causes the nails C in the receptacle B to be agitated whereby they drop downwardly through the slots **20** into the aligned positions shown in FIG. 2.

I claim:

1. A nail carrier assembly comprising:

a. a nail receptacle fabricated from a nonmagnetic sheet material, which receptacle includes a front and a rear wall, two end walls extending between said front and rear walls, with at least one pair of downwardly and inwardly extending bottom members being secured to said end walls and defining a longitudinal slot therebetween through which said nails may depend from said receptacle, which slot is of a width less than the diameter of the heads of said nails and with at least one pair of openings being formed in the lower portions of said end walls in longitudinal alignment with said slot, which openings are of sufficient width and height to permit said heads to be moved outwardly therethrough;

b. spring-loaded means on said end walls that are normally in first positions for closing said openings and prevent inadvertent discharge of said nails from said receptacle with said means adapted to be moved to second positions where a group of said nails in depending positions may be removed from said receptacle;

c. a chest plate;

d. first means for supporting said receptacle forwardly of said chest plate;

e. two fasteners that removably engage said first means;

f. two pliable straps to the first ends of which said fasteners are affixed, and on the second ends of which straps, loops are provided; and

g. a ring positioned on the back of the user of said assembly, with said straps extending upwardly over the shoulders of said user and downwardly through said ring, and then around opposite sides of said user's back and chest to permit said loops to engage said straps above said fasteners, which fasteners, straps and ring cooperatively provide a harness to removably support said receptacle in a position forwardly of said user's chest and tilted either to the left or right whereby groups of said depending nails can be manually removed from said receptacle with the heads thereof partially overlapping one another by exerting sufficient force on said spring-loaded means to move said spring-loaded means into said second position, with said spring-loaded means immediately returning to said first position after said group of depending nails are removed therefrom.

2. A nail carrier assembly as defined in claim **1** that further includes a plurality of pairs of bottom members and longitudinal slots through which a plurality of rows of nails depend, and in which end walls a plurality of pairs of said openings are formed through which groups of said depending nails may be removed from said receptacle.

3. A nail carrier assembly as defined in claim **2** wherein said spring-loaded means further include:

h. at least two plates secured to the exterior of said end walls above said openings;

i. two pairs of spaced arms that extend outwardly in opposite directions from said plates;

j. two pins that extend between said pairs of arms;

k. two doors pivotally supported on said pins, which doors are sufficiently long as to extend downwardly over said openings; and

l. spring means that at all times tend to maintain said doors in said first positions.

4. A nail carrier as defined in claim **3** in which said first means further include:

m. a flange extending forwardly from the upper edge of said chest plate; and

n. a fastener plate extending upwardly from the forward edge of said flange, which fastener plate is secured to the upper exterior surface of said rear wall, with said fastener plate having two spaced holes formed therein that are removably engaged by said fasteners.

5. A nail carrier as defined in claim **4** which further includes:

o. means on said straps for adjusting the length thereof to cause said harness to conform to the chest configuration of a particular user.